

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-013723

(43)Date of publication of application : 14.01.2000

(51)Int.Cl.

H04N 5/765

H04N 5/781

H04Q 7/38

H04N 5/225

H04N 5/907

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(54) IMAGE RECORDING AND REPRODUCING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To display additional information such as a photographic place and a date together with a photographic image or to display only the image without displaying the additional information by providing a means which inputs additional information about image information and a means which separates the additional information from the image information and records them.

SOLUTION: A user receives a GPS(Global Positioning System) satellite radio wave, obtains the current position information and transmits it to a transmitting and receiving part 6. A base station sends information that is related to the position to a video signal recording device according to receiving position

information. A system controller 5 receives additional information about a photographic place current position that is received by the part 6, controls a recording and reproducing part 4 and records the additional information together with an address where image data corresponding to the additional information is stored. The user controls the part 4 through the controller 5, designates a selected image and sound file correspondence additional information address and reproduces the additional information together with an image and sound.

LEGAL STATUS

[Date of request for examination] 09.03.2005

[Date of sending the examiner's
decision of rejection]

[Kind of final disposal of application
other than the examiner's decision of
rejection or application converted
registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's
decision of rejection]

[Date of requesting appeal against
examiner's decision of rejection]

[Date of extinction of right]

CLAIMS

[Claim(s)]

[Claim 1] It is the image-recording regenerative apparatus equipped with an additional-information input means is the image recording regenerative apparatus equipped with the photography means and the record playback means which carries out record playback of the image information showing the image photoed with this photography means, and input the additional information about the above-mentioned image information, and a record means.the above-mentioned image information separates the additional information relevant to the above-mentioned image information, and record.

[Claim 2] The image recording regenerative apparatus which received the additional information to which said additional information input means has a means to perform an information communication link between the current position detection means of self, and a base station, transmits self currency information to a base station, and is sent from a base station in an image recording regenerative apparatus according to claim 1.

[Claim 3] The image recording regenerative apparatus with which said additional information input means received self currency information as additional information in the image recording regenerative apparatus according to claim 1.

[Claim 4] The image recording regenerative apparatus with which said additional information input means displayed the additional information which transmits self currency information to a base station, transmits the positional information which received the additional information sent from a base station, and was beforehand recorded at the time of playback to a base station, and is sent from a base station in the image recording regenerative apparatus according to claim 1.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] Especially this invention relates to a record regenerative-apparatus one apparatus video camera or an electronic "still" camera about an image recording regenerative apparatus.

[0002]

[Description of the Prior Art] Although many the small video cameras and electronic "still" cameras of record regenerative-apparatus one apparatus came to be used recently, those record regenerative-apparatus one apparatus video cameras or electronic "still" cameras have not come to be able to carry out record playback of the information attached to the photoed location.

[0003] For this reason, the reproduced image may not be known in what was photoed where. Since he has not gone to the location in many cases when it is the image which especially others photoed, the image does not understand at all where it is only by seeing a playback image. Moreover, even if it is the image photoed by itself, when time amount passes, he may forget where a photograph was taken.

[0004] He often wants to come to get to know that by which the playback image was photoed where, or the thing which is looking at the playback image and by which the image was photoed when and where although you do not understand. For example, the image photoed in the **** hotel is seen, and although he thinks that he will ask somethings, such as reservation, as soon as it visits once again to the hotel and cooks to it, it may be said that a contact is not known well. in such a case, information retrieval, such as an address of the image or image currently seen in front of the eye to the hotel, and a contact of the telephone number or its location, -- ***** -- it is convenient.

[0005] When a user chooses by button grabbing etc. at the time of photography, the function which can add the date etc. as additional information is attached to the camcorder (record regenerative-apparatus one apparatus camera) and still camera which are marketed now. Therefore, a user can check whether it is that by which the image was photoed when, while reproducing *****.

[0006] Although this function is a convenient function Since both of image

information and day entries are treated as image information and a day entry is recorded in piles on image information. Once it will add and photo a day entry, the day entry will be embedded at image information. Since image information of the part had decreased in the part as which the day entry was displayed even if distinction sticks difficultly and temporarily, it was difficult for separating original image information and additional information well to treat an image and additional information in distinction from the time of playback.

[0007] When reproducing and seeing the image which already photos and has been recorded or using for others, a user does not necessarily desire to always attach additional information, such as the date, and to reproduce. It desires to be able to display additional information, such as the date, or to be unable to display it if needed. Nevertheless, the image photoed with additional information as mentioned above at the time of photography had the problem that it was always displayed with additional information.

[0008]

[Problem(s) to be Solved by the Invention] This invention makes it a technical problem to conquer the fault in a record regenerative-apparatus one apparatus camera, an electronic "still" camera, etc. of the above-mentioned former. That is, one technical problem of this invention is to offer the record regenerative apparatus which can carry out record playback of the information attached to the photography location of the image photoed with the camera. Other technical problems of this invention are to record image information for additional information, such as a day entry, on somewhere else, and enable it to separate image information and additional information. The technical problem of further others of this invention displays additional information, such as a photography location and a date, together with the photoed image, or additional information is to enable it to display only an image, without displaying.

[0009]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, this invention offers the image recording regenerative apparatus equipped with the following means. That is, it is the image-recording regenerative apparatus equipped with the photography means and

the record playback means which carries out record playback of the image information showing the image photoed with this photography means, and the image-recording regenerative apparatus equipped with an additional-information input means input the additional information about the above-mentioned image information, and a record means the above-mentioned image information dissociates and record the additional information relevant to the above-mentioned image information provides.

[0010] Moreover, in the above-mentioned image recording regenerative apparatus, said additional information input means has a means to perform an information communication link between the current position detection means of self, and a base station, transmits self currency information to a base station, and offers the image recording regenerative apparatus which came to receive the additional information sent from a base station.

[0011] Furthermore, in the above-mentioned image recording regenerative apparatus, said additional information input means offers the image recording regenerative apparatus made as [receive / self currency information / as additional information] again. Furthermore, in the above-mentioned image recording regenerative apparatus, said additional information input means transmits self currency information to a base station, transmits the positional information which received the additional information sent from a base station, and was beforehand recorded at the time of playback to a base station, and offers the image recording regenerative apparatus which displayed the additional information sent from a base station again.

[0012]

[Embodiment of the Invention] The record regenerative apparatus equipped with a means by which the self current positions, such as GPS (Global Positioning System) and PHS (Personal Handyphone System personal handy phone system), are detectable as 1 operation gestalt of this invention is explained below with reference to drawing 1 .

[0013] As shown in drawing 1 , the system configuration of the video-signal record regeneration system in the gestalt of this operation consists of the camera section 1, the voice input section 2, GPS transmitting and receiving part 3, the record playback section 4, a system controller 5, and the

transceiver section 6.

[0014] The video signal photoed in the camera section 1 is sent to the record playback section 4 through a system controller, and is recorded there. When also recording a sound signal in addition to a video signal, the sound signal recorded in the voice input section is sent to the record playback section 4 through a system controller, and it records there. The above is the function of the usual video camera.

[0015] In addition to the above-mentioned usual video camera function, the system configuration of the video-signal record regenerative apparatus of the gestalt of this operation has prepared a GPS transmitting and receiving part and the transceiver section, can acquire the positional information about the location where this system is used, and can have the information which transmits the positional information of that location to a base station further, and is related from a base station sent.

[0016] GPS is explained briefly first. A GPS system changes by three persons of the GPS Satellite group arranged in space, the ground base station which carries out control control of it, and a user with a GPS receiver. The GPS Satellite group has always transmitted the signal towards the ground, and carries the atomic clock.

[0017] A ground base station consists of two or more monitor stations and main control stations. A monitor station carries out observation reception of the signal of a GPS Satellite, analyzes the received data in a main control station, analyzes a satellite's orbit based on a self precise location, and also performs analysis of the time of day of a satellite loading atomic clock again. This determines the exact orbital position and the time of day of a satellite, and those data are returned to a satellite.

[0018] A GPS Satellite rearranges the data received from the earth station to required message data, and transmits them to users, such as an aircraft, a marine vessel, an automobile, and a man. A user measures his location and time of day using a GPS receiver.

[0019] The actuation of the video-signal record regenerative apparatus of the gestalt of this operation is as follows. That is, a user receives the electric wave sent from the GPS Satellite with GPS transmitting and receiving part 3,

and acquires his current positional information.

[0020] Its positional information acquired by the above-mentioned approach is sent to the transceiver section 6. The transceiver section 6 transmits this positional information to a base station with the signal showing an information inquiry, when acquiring the additional information relevant to that location from this positional information. In a base station, received positional information is made into a keyword, information retrieval is performed, the information relevant to that location is found, and it returns to this video-signal record regenerative apparatus.

[0021] This video-signal record regenerative apparatus receives the additional information about the current position of the photography location sent by the above-mentioned approach in the transceiver section 6, and sends it to a system controller 5. A system controller 5 is recorded on media together with the address with which the image data which corresponds so that the record playback section 4 may be controlled and the information may be known in the additional information of which image data was stored. This record approach is mentioned later.

[0022] When reproducing the image recorded as mentioned above, the record playback section 4 is controlled by the system controller 5, the address with which the additional information corresponding to the file of the image and voice which the user is choosing and reproducing is recorded is specified, and additional information is reproduced with an image and voice by reproducing the additional information currently beforehand recorded from the address. The reproduced additional information can be displayed on a display with a playback image, and print-out of it etc. is possible. It can avoid displaying this, if presenting of additional information is not liked.

[0023] The gestalt of other operations: Explain the video-signal record regenerative apparatus shown in drawing 2 as other operation gestalten of this invention below. The video-signal record regenerative apparatus of this operation gestalt has the same circuit and most which were mentioned above with reference to drawing 1 . The part which is different from the circuit of drawing 1 is the point that the output of a GPS transmitting and receiving part is connected to the system controller 5.

[0024] The actuation of this video-signal record regenerative apparatus is as follows. An antenna receives the position signal sent from a GPS Satellite, and it sends to GPS transmitting and receiving part 3. This positional information controls the record playback section 4 by the system controller 5, and records it on media as it is as additional information with image information and speech information with it. By making it such a configuration, the amount of the additional information which should be recorded on media can be decreased successively.

[0025] When reproducing the recorded signal, in order to show a user the additional information over the image recorded on media, the positional information reproduced from media is transmitted to a base station through the transceiver section 6, the additional information sent from a base station is received in the transceiver section 6, and the additional information is displayed on a display.

[0026] It communicates with a base station on real time, and you may make it acquire additional information at the time of playback of a video signal, and may make it start a communication link from the event of media being inserted in a record regenerative apparatus about the timing which performs the information communication link with a base station. Since the communication circuit is congested, when trouble appears in the communication link of real time, you may make it begin a communication link from immediately after insertion of media. In this case, the additional information acquired by the communication link with a base station is saved once at the information storage device built in in the record regenerative apparatus, when required, reading appearance of it is carried out, and it is displayed on a user.

[0027] Next, how to record voice and image information, and additional information independently in the system which acquires its currency information is explained from the positional information of the base station which received the electric wave of Above GPS and PHS etc. Drawing 3 shows the example recorded on media as the same binary data, without distinguishing voice and image information, and additional information on a disk. Like a graphic display, on a disk, it is mixed by voice and image information, and additional information, and they are recorded.

[0028] Drawing 4 is an example which divides and records the area voice and for image information, and the area for additional information on a disk. By this example, the area for additional information is set up and the area voice and for image information is set to the inner circumference side at the periphery side. The data to record are divided into the block of fixed size, it is recorded on media (disk etc.), and a format of the block is carried out to a format as shown in drawing 5 .

[0029] In drawing 5 , the field shown by 0-4 is as follows.

0: Sink field (part which takes a synchronization)

1: Header field (field which records the mode information for making a judgment of image information or additional information, address information, a time code, etc.)

2: Subheader fields (byte count of the corresponding starting address of additional information area, an ending address, or the amount of additional information etc.)

3: User area (field which stores voice, image information, etc.)

4: Auxiliary data (error detection information)

By recording in the above formats, image information and additional information are independently recordable on media.

[0030]

[Effect of the Invention] The above-mentioned picture signal record regenerative apparatus of this invention detects the current position on which the photography means is put by location detection means, such as GPS and PHS. The information relevant to [to a base station] the positional information from a delivery base station for the positional information, For example, the additional information of its current positions (not lat/long but the identifier and the Fuji mountains top of a location, TOKYO DOME, etc.), weather intelligence, event information and contact (telephone number and address), and others is acquired. Since it is recordable on archive media, such as a magnetic disk, it becomes possible to reproduce various information, such as "Tokyo Disneyland" and "Tel:xxx", selectively, and to carry out automatic insertion by the telop at the time of playback.

[0031] When an image is seen later, the problem that this is not clear

anymore in what was photoed where is solved by this. When a thing left behind etc. is carried out, the telephone number of the contact etc. can make it display simply later.

[0032] Since only the information on the lat/long acquired from GPS, PHS, etc. instead of the information which communicated with the base station as additional information recorded on media, and was acquired from positional information is recorded on media, namely, only index information records on media, these indexes information is used at the time of playback, and it communicates between base stations, and additional information can acquire and it can reproduce and display, amount of information recordable on media can increase.

[0033] By recording image information and additional information independently, it prevents embedding a day entry etc. at image information, and can choose now whether a user displays information at the time of playback, or it does not carry out.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is system configuration drawing of an example of the image recording regenerative apparatus of this invention.

[Drawing 2] It is system configuration drawing of other examples of the image recording regenerative apparatus of this invention.

[Drawing 3] It is the mimetic diagram showing the method of record of the information on a disc-like media top.

[Drawing 4] It is the mimetic diagram showing the method of record of the information on a disc-like media top.

[Drawing 5] It is the diagram showing an example of a format of the data recorded on media.

[Description of Notations]

1 [.. The record playback section, 5 / .. A system controller, 6 / .. Transceiver section] The camera section, 2 .. The voice input section, 3 .. A GPS transmitting and receiving part, 4
